

IN THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the above-referenced application:

1. (Currently Amended) A method for use in a virus-free certificate firewall in controlling and filtering files using a virus-free certificate, the method comprising the steps of:

the firewall receiving a file;

if a virus-free certificate is required for the file, searching through at least one cache of stored virus-free certificates to determine ~~determining~~ whether a one of the stored virus-free certificates ~~is already associated with~~ corresponds to the file;

if a stored virus-free certificate is ~~already associated with~~ found which corresponds to the file, authenticating the ~~associated~~ corresponding stored virus-free certificate, said corresponding stored virus-free certificate comprising a certificate signature;

if the corresponding stored virus-free certificate is authenticated, determining whether the file is virus-free or not;

if the file is virus-free, forwarding the file with the ~~associated~~ corresponding stored virus-free certificate;

if the corresponding stored virus-free certificate is not authenticated or if no corresponding stored virus-free certificate ~~is associated with the file~~ is found, determining whether the file is virus-free ~~or not~~;

if the file is virus-free, associating with the file a new virus-free certificate, storing the new virus-free certificate, and forwarding the file with the new virus-free certificate.

2. (Original) The method according to claim 1, further comprising the steps of:

identifying the file in a table, said table comprising for each identified file at least one anti-virus criteria;

referring to the table and retrieving at least one of said at least one anti-virus criteria,; and

determining from said at least one anti-virus criteria whether a virus-free certificate is required for the file or not.

3. (Previously Presented) The method according to claim 2, wherein the step of referring to the table and retrieving at least one of said at least one anti-virus criteria includes the step of determining whether or not the identified file satisfies requirements of the retrieved anti-virus criteria.

4. (Original) The method according to claim 1, wherein the virus-free certificate comprises a file signature for determining that the file is virus-free.

5. (Previously Presented) The method according to claim 1, wherein the virus-free certificate includes a list of anti-virus programs that have been executed on the file.

6. (Currently Amended) The method according to ~~any one of the preceding claims~~ claim 1, wherein the virus-free certificate further comprises at least one of the following:

- a file identification;
- a virus-free certificate authority identification;
- a public key for decrypting the file signature;
- a certificate signature for authenticating the virus-free certificate; and
- an indication of the virus-free certificate validity.

7. (Original) The method according to claim 1, wherein said step of determining whether the file is virus-free or not includes:

- decrypting the file signature using a public key comprised in the virus-free certificate;
- hashing the file to generate a file digest; and
- comparing the decrypted file signature with the generated file digest.

8. (Currently Amended) The method according to ~~any one of the preceding claims~~ claim 1, wherein said step of determining whether the file is virus-free or not comprises the further step of

if the file is not virus-free, discarding the file.

9. (Previously Presented) The method according to claim 1, wherein the step of authenticating the virus-free certificate includes:

validating the virus-free certificate, the virus-free certificate including a list of at least one anti-virus program that has been executed on the file;

identifying the file in a table, said table comprising for each identified file at least one anti-virus criteria; and

verifying that the list of said at least one anti-virus program comprised in the virus-free certificate is included in a list of anti-virus programs associated with the file in the table.

10. (Original) The method according to claim 1, wherein the step of associating with the file a new virus-free certificate includes the step of requesting a virus-free certificate to a virus-free certificate authority.

11. (Original) The method according to claim 1, wherein the step of associating with the file a new virus-free certificate includes the step of retrieving a virus-free certificate from a cache, said cache storing existing virus-free certificates.

12. (Currently Amended) The method according to ~~any one of the preceding claims~~ claim 1, wherein the step of forwarding the file with the new virus-free certificate includes updating a cache with the new virus-free certificate.

13. (Currently Amended) A system ~~comprising means adapted for carrying out the method according to claim 1~~ for controlling and filtering files using a virus-free certificate, the system comprising a firewall operative: (i) to receive a file; (ii) if a virus-free certificate is required for the file, to search through at least one cache of stored virus-free certificates to determine whether one of the stored virus-free certificates corresponds to the file; (iii) if a stored virus-free certificate is found which corresponds to the file, to authenticate the corresponding stored virus-free certificate, said corresponding stored virus-free certificate comprising a certificate signature; (iv) if the corresponding stored virus-free certificate is authenticated, to determine whether the file is virus-free

or not; (v) if the file is virus-free, to forward the file with the corresponding stored virus-free certificate; (vi) if the corresponding stored virus-free certificate is not authenticated or if no corresponding stored virus-free certificate associated with the file is found, to determine whether the file is virus-free; and (vii) if the file is virus-free, to associate with the file a new virus-free certificate, to store the new virus-free certificate, and to forward the file with the new virus-free certificate.

14. (Canceled)

15. (Currently Amended) An article of manufacture comprising a computer usable medium having computer readable program code means embodied therein for causing employment of a virus-free certificate firewall, the computer readable program code means in said article of manufacture comprising ~~computer readable program code means for causing a computer to effect the steps of claim 1~~ one or more programs which when executed implement the steps of:

receiving a file;

if a virus-free certificate is required for the file, searching through at least one cache of stored virus-free certificates to determine whether one of the stored virus-free certificates corresponds to the file;

if a stored virus-free certificate is found which corresponds to the file, authenticating the corresponding stored virus-free certificate, said corresponding stored virus-free certificate comprising a certificate signature;

if the corresponding stored virus-free certificate is authenticated, determining whether the file is virus-free or not;

if the file is virus-free, forwarding the file with the corresponding stored virus-free certificate;

if the corresponding stored virus-free certificate is not authenticated or if no corresponding stored virus-free certificate associated with the file is found, determining whether the file is virus-free; and

if the file is virus-free, associating with the file a new virus-free certificate, storing the new virus-free certificate, and forwarding the file with the new virus-free certificate.

16. (Currently Amended) A computer program product comprising a computer usable medium having computer readable program code means embodied therein for causing employment of a virus-free certificate firewall, the computer readable program code means in said computer program product comprising computer readable program code ~~means for causing which when executed causes~~ a computer to effect the steps of ~~claim 1~~:

receiving a file;

if a virus-free certificate is required for the file, searching through at least one cache of stored virus-free certificates to determine whether one of the stored virus-free certificates corresponds to the file;

if a stored virus-free certificate is found which corresponds to the file, authenticating the corresponding stored virus-free certificate, said corresponding stored virus-free certificate comprising a certificate signature;

if the corresponding stored virus-free certificate is authenticated, determining whether the file is virus-free or not;

if the file is virus-free, forwarding the file with the corresponding stored virus-free certificate;

if the corresponding stored virus-free certificate is not authenticated or if no corresponding stored virus-free certificate associated with the file is found, determining whether the file is virus-free; and

if the file is virus-free, associating with the file a new virus-free certificate, storing the new virus-free certificate, and forwarding the file with the new virus-free certificate.

17. (Currently Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for employment of a virus-free certificate firewall, said method steps comprising the steps of ~~claim 1~~:

receiving a file;

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if a virus-free certificate is required for the file, searching through at least one cache of stored virus-free certificates to determine whether one of the stored virus-free certificates corresponds to the file;

if a stored virus-free certificate is found which corresponds to the file, authenticating the corresponding stored virus-free certificate, said corresponding stored virus-free certificate comprising a certificate signature;

if the corresponding stored virus-free certificate is authenticated, determining whether the file is virus-free or not;

if the file is virus-free, forwarding the file with the corresponding stored virus-free certificate;

if the corresponding stored virus-free certificate is not authenticated or if no corresponding stored virus-free certificate associated with the file is found, determining whether the file is virus-free; and

if the file is virus-free, associating with the file a new virus-free certificate, storing the new virus-free certificate, and forwarding the file with the new virus-free certificate.